Marked-up original claims

disregarded and a mechanically absolutely rigid connection of the surface of the armature rotated engaged by the torque from the position of the rotated part of the rotary acceleration meter at which the rotary thrust of the drive is engaged to the position of the rotated part of the accelerometer at which the effect used for registration of acceleration is generated, basis, is each scaled so that the relation bm = α Fg(p) = bEm Fg(p) is satisfied, and wherein the measured acceleration signal bm is delivered to the input of a low-pass filter with the low-pass transfer function FT(p), FT(0) preferably equalling 1, so that the signal x = bm FT(p) can be received at the output of the low-pass filter, and wherein the measured substitute acceleration signal bEm is delivered to the input of a high-pass filter with high-pass transfer function FH(p) = FT(0) - FT(p) Fg(p), so that the signal y = bEm [FT(0) - FT(p) Fg(p)] may be received at the output of this high-pass filter, and wherein a signal z = bm FT(p) + bEm [FT(0) - FT(p) Fg(p)] is formed in accordance with the relation z = x + y and this synthesized signal z is subsequently used as a very high-quality dynamic substitute as the undelayed instantaneous value of the rotary acceleration α of the rotated armature in automatic control of the drive in question.

7. A device and a process as described in Claim 6, wherein the armature current ia of the direct-current fed winding of the drive is used as substitute acceleration signal bE = ia in place of the torque m of the drive.

8. A device and a process as described in Claim~~s~~ 2 ~~to 5~~, wherein the limit frequency value selected for the low-pass filter with low-pass transfer function FT(p) is low enough so that, if the drive winding is energized by multiphase current by

way of a so-called pulse inverter and its output voltage space indicator on the output side operates on the principle of discrete-time change in switching condition control with a clock frequency in the 100-kHz range directly from a two-point control loop which adjusts the instantaneous value of the synthesized signal z to the set value of this signal, then no self-excited oscillations arise in this two-point control loop for the synthesized signal z.

9. A device and a process as described in ~~one of~~ Claim~~s~~ 6 ~~or 7~~, wherein the limit frequency value selected for the low-pass filter with low-pass transfer function FT(p) is low enough so that, if the drive winding is energized by direct current by way of a so-called pulse inverter and its output voltage is derived in accordance with the principle of discrete-time change in switching condition control with a clock frequency in the 100-kHz range directly from a two-point control loop which adjusts the instantaneous value of the synthesized signal z to the set value of this signal, then no self-excited oscillations arise in this two-point control loop for the synthesized signal z.

10. A device and a process as described in ~~one of~~ Claim~~s~~ 1 ~~to 7~~, wherein the low-pass filter with low-pass transfer function FT(p) is dimensioned so that its limit frequency is lower than 10 kHz.

11. A device and a process as described in ~~one of~~ Claim~~s~~ 1 ~~to 10~~, wherein the circumstance constantly occurring in practical application that the connection between the measured substitute acceleration signal bEm and the measured acceleration signal αm is only incompletely described by the equation $\alpha m = Fg(p)\ bEm$ and accordingly, in order for the actual conditions to be taken

into account is to be replaced by the relation $\alpha m = FM(p) \quad Fg(p) \quad bEm$, in which transfer function $FM(p)$ describes the mechanical frequency response from the surface of the armature set in movement which is engaged by the thrust of the drive to the position of the part of the accelerometer set in movement at which the effect used for registration of acceleration is generated is taken into account by replacing the high-pass filter in question with the high-pass transfer function $FH(p) = FT(0) \quad FT(p) \quad Fg(p)$ with a modified high-pass filter with modified high-pass transfer function $Fh(p) = FT(0) - FT(p) \quad Fg(p) \quad FM(p)$, it being advisable in this process not to determine the limit frequency of the low-pass filter with low-pass transfer function $FT(p)$ until the high-pass filter with high-pass transfer function $FH(p)$ has been replaced by a modified high-pass filter with modified high-pass transfer function $Fh(p)$.

12. A device and a process as described in ~~one of~~ Claim~~s~~ 1 ~~to 10~~, wherein the circumstance constantly occurring in practical application that the connection between the measured substitute acceleration signal bEm and the measured acceleration signal αm is only incompletely described by the equation $\alpha m = Fg(p) \quad bEm$ and accordingly, in order for the actual conditions to be taken into account, is to be replaced by the relation $\alpha m = FM(p) \quad Fg(p) \quad Fg(p) \quad bEm$, in which transfer function $FM(p)$ describes the mechanical frequency response from the surface of the armature set in movement which is engaged by the thrust of the drive to the position of the part of the accelerometer set in movement at which the effect used for registration of acceleration is generated is taken into account in approximation

by separating from the transfer function in question FM(p) that part

$$F_0(p) = \frac{(1+p\cdot T_\mu)\cdot(1+2\cdot D_v\cdot p\cdot T_v+p^2\cdot T_v^2)\cdot\ldots}{(1+p\cdot T_i)\cdot(1+2\cdot D_j\cdot p\cdot T_j+p^2\cdot T_j^2)\cdot\ldots},$$

which allows for one or more poles and/or zero positions with particularly high values of $T\mu$, Tv, Ti, or Tj, and by replacing te high-pass filter in question with high-pass transfer function FH(p) = FT(0) - FT(p) Fg(p) with a modified high-pass filter with modified high-pass transfer function Fh*(p) ≃ Fγ(0) - FT(p) F8(p) F0(p), it being advisable not to determine the limit frequency of the low-pass filter with low-pass transfer function FT(p) in this process until the high-pass filter with high-pass transfer function FH(p) has been replaced by a modified high-pass filter with modified high-pass transfer function Fh*(p).